

Alabama NPS 2003 Annual Report

EXECUTIVE SUMMARY

Nonpoint source pollution, also known as polluted runoff, is the number one contributor to water quality degradation of Alabama's waters. It accounts for approximately two-thirds of the water quality impairments to our streams and lakes. Unlike point source pollution that enters waters at definite locations such as discharge pipes from wastewater treatment plants, nonpoint source pollution originates from numerous, often diffuse, sources. Nonpoint source pollution is usually associated with farming, logging, mining, urban, construction runoff/sedimentation, atmospheric deposition, land disposal, recreational activities, onsite sewage systems, riparian area degradation, and streambank destabilization. Contaminants can also be introduced to waters by day-to-day activities such as driving vehicles that leak fluids, misuse/overuse of lawn care products, dumping petroleum products and antifreeze down stormwater drains or into drainage ways, and improperly treating residential wastewater. As rainfall runoff moves over and through the soil, it picks up and carries away pollutants such as pesticides, fertilizers, nutrients, metals, sediment, and bacteria and other pathogens resulting from the various activities mentioned above, and deposits the pollutants into receiving waters. These pollutants can threaten human health and be toxic to livestock, wildlife, and aquatic organisms.

Since 1990, the Alabama Nonpoint Source Program has been fortunate to receive the Clean Water Act Section 319(h) grant appropriations to demonstrate a variety of projects that target a wide range of nonpoint source problems and that provide for their solutions. The success of these efforts is associated with the cooperative partnership enjoyed by many NPS pollution stakeholders.

In 2003, the Alabama Nonpoint Source Management Program continued to address nonpoint source pollution to Alabama's waters through cooperative partnerships across the state. The state is making good progress in achieving Alabama NPS Management Program goals and objectives. In general, the program is focused on promoting long-term stakeholder capacity to voluntarily implement local management measures regardless of the availability of federal funding. Citizen involvement, the Alabama Clean Water Partnership, and development of holistic watershed-based plans are significant venues to accomplish this effort. These approaches appear to be the most appropriate voluntary means to ensure that water quality concerns are addressed in an economically achievable and environmentally protective manner.



Implementation of the Alabama NPS Management Program presents a formidable but achievable task of integrating many and varied programs such as NPDES permits, TMDLs, Phase II stormwater, and other federal and state programs - with limited voluntary NPS management program resources. However, the success of the Alabama Clean Water Partnership is an example of what can be accomplished to provide a collaborative and cooperative focus on a myriad of NPS interests and issues. Continuous collaboration with all resource agency providers and management program stakeholders remain a program priority.

ALABAMA NPS MANAGEMENT PROGRAM MISSION

To effectively and efficiently implement a comprehensive nonpoint source pollution management program designed to achieve, maintain, and/or protect beneficial uses of surfaces and ground waters using a flexible, targeted, and iterative river basin approach supported by broadly inclusive local stakeholder partnerships.

2003 SHOWCASE PROJECTS & ACCOMPLISHMENTS

WATERSHED MANAGEMENT PLANS UPDATE

Section 319 grant funding has been/is integral to holistic management plan development and implementation. A river basin management plan has been completed for the *Middle Coosa River Basin* (including Logan Martin and Neely Henry Reservoirs) and management measures to address priority (TMDL) NPS impaired watersheds are being funded by the FY03 base grant. The *Upper Coosa River/Weiss Lake Management Plan* is undergoing revision by the Clean Water Partnership in order to better address overall watershed protection. The *Tennessee Valley Management Plan* was finalized in 2003 and several Section 319 watershed projects have been/are being implemented. The *Cahaba River Basin Management Plan* is available on the Cahaba River Clean Water Partnership website, although the plan is dynamic. A *Final Draft Black Warrior River Plan* has been developed and a final plan is expected in January 2004. The *Coastal Alabama NPS Basin Management Plan* was in its Final Draft form in August 2003 with a final plan expected in January 2004. The *Lake Wedowee Management Plan* (Upper Tallapoosa River Basin) was completed in Sept 2003. In addition, the ADEM has contracts in-place to develop management plans for the *Alabama River*, *Upper and Lower Tombigbee River*, *Middle and Lower Tallapoosa River*, and the *Lower Coosa River*. These basin management plans are expected to be completed in 2005.

TMDL VIDEO WINS AWARD

"*Water Smart: Think Watersheds and TMDLs*," a video produced using Section 319 grant funding in cooperation with ADEM and Legacy - Partners in Environmental Education, received two awards for excellence in visual communications and creative expertise. The video won the national Aegis Award after judging by video/film production industry professionals and the international Communicator Awards Crystal Award of Distinction for, "exceeding industry standards in production or communications skills." The Water Smart video promotes common-sense approaches to the complexities of watershed protection.

ALABAMA CLEAN WATER PARTNERSHIP

Established in 2001, the Alabama Clean Water Partnership (CWP) program continues to expand its efforts to coordinate statewide NPS watershed planning and management efforts. As an inclusive and neutral forum for NPS stakeholders, the 501(c)(3) designated CWP leverages human and financial capital to address TMDL and watershed-based plan development and implementation, education and outreach, Phase II stormwater, drinking water protection, streambank protection, recycling, and all other categories of NPS pollution. Several Section 319-funded river basin CWP facilitators are in place. The statewide Board of Directors, and river basin, sub-basin, and watershed-specific advisory committees and stakeholders meet at least quarterly.

ALABAMA BASIN GUIDES AND VOLUNTEER MONITORING GUIDES

The following Alabama Water Watch/Section 319 grant funded basin guides were produced: "*The Guide to Alabama Rivers: Tennessee*" (Fall 2003); "*The Guide to Alabama Rivers: Chattahoochee and Coastal Plains Streams*," (Winter 2003); "*Citizen Volunteer Water Quality Monitoring on Alabama's Streams: Tri-River Region - Montgomery Area.*," (February, 2003); and the, "*Citizen Volunteer Water Quality Monitoring of Alabama's Reservoirs: Lake Wedowee*," (June 2003).

ALABAMA STREAM RESTORATION GUIDE

A statewide guide for, "*Coordinated Stream Restoration Efforts in Alabama*" was produced in 2003. The mission is, "To build the capacity for successful stream restoration initiatives and project implementation within the State of Alabama." This mission will be accomplished through the efforts of a coalition of agencies and organizations expressly interested in stream restoration through natural channel design techniques.

In addition, streambank restoration activities in 2003 included:

- Three (3) "Introductory Stream Restoration Workshops" in cooperation with numerous partner agencies and organizations (Dave Rosgen's applied river geomorphology/natural channel design techniques). Several requests are being received from stakeholders to conduct additional training in 2004. FY03 Section 319 is being provided to support this effort.
- One (1) Stream Restoration Feasibility Workshop was presented in cooperation with numerous partner agencies and organizations.
- Preliminary fieldwork was conducted along degraded urban streams in Lee and Etowah counties using "Rosgen" natural channel design techniques. FY03 Section 319 funding may provide statewide training and on-the-ground management practice funding during 2004.

THE ALABAMA COASTAL NPS MANAGEMENT PROGRAM

The Alabama Coastal NPS Management Program has been provided \$250,000 of Section 319 base grants funds (FY01, 02, and 03) to address outstanding approval conditions of the Coastal NPS Management Program and to implement components thereof. During the summer/fall of 2003, the ADEM Coastal Field Operations Office in Mobile, in cooperation with coastal zone stakeholders, developed a list of potential NPS pollutant management projects. The list is presently being prioritized for implementation to begin in 2004.

Discussions and meetings began in September 2003 between ADEM and the Alabama Department of Public Health to standardize/institutionalize bacterial source tracking efforts in Alabama. Phenotypic and genotypic bacterial characterization, methodologies and capabilities are being considered to determine source origins. A cooperative state agency/university pilot project is being planned - possibly in 2004 for the City of Fairhope in Baldwin County in coastal Alabama.

NUTRIENT MANAGEMENT

a. Animal Waste Management: The Comprehensive Nutrient Management/Poultry Litter Utilization Project continued its success and has drawn much attention for efforts to reduce nutrient loadings in areas of highly concentrated poultry operations. The best results are related to the transfer of chicken litter from highly concentrated operations in north Alabama to other areas of the state with nutrient-poor soils. More than 6,500 tons of raw litter has been removed from Cullman and Marshall Counties. This translates to a reduction of at least 364,000 pounds of nitrogen, 377,000 pounds of phosphorous, and 290,000 pounds of potassium.

b Nutrient Criteria: The development of nutrient criteria continued to be an ADEM priority in 2003. On January 12, 2001, ADEM adopted water quality regulations that established numeric-specific criteria (chlorophyll *a*) for particular locations on four major reservoirs in Alabama (Walter F. George and West Point Lakes on the Chattahoochee River; R.L. Harris Lake on the Tallapoosa River; and Weiss Lake on the Coosa River). The ADEM is adopting nutrient criteria on 41 public lakes and reservoirs. Using Section 319 (FY02 and FY03) and other funding, sampling plans have been prepared and efforts are underway to gather data to establish numeric nutrient criteria. The ADEM strategy entails setting chlorophyll *a* criteria on a lake-specific basis in lieu of using EPA's 304(a) ambient water quality criteria recommendations. Rivers and streams, estuarine and coastal waters, and wetland strategies and goals are being addressed by a technical advisory team (Rivers and Streams Workgroup). The ADEM also participates on the EPA R-4 Regional Technical Advisory Group (RTAG), in order to ensure Alabama's nutrient criteria program is technically sound via peer review from experts throughout the Southeast.

WATERSHED PROTECTION IMPLEMENTATION HIGHLIGHTS

The following watershed projects address NPS pollutant sources and causes of waterbodies on the Section 303(d) List of Impaired Waters:

- The *Duck River Watershed Project* is proceeding according to scheduled milestones and objectives. All workplan best management practices (BMPs) were implemented in 2003. The BMPs included dry stacks for poultry litter, incinerators and composters for poultry mortality, conversion from cropland to grassland, and the installation of *10,000 feet* of riparian zone protection (about 70 acres).
- The *Eight Mile Creek Watershed Project* located in Cullman County is proceeding as scheduled. Landowners in the watershed have applied for assistance in implementing best management practices. Most of the interest has come from poultry producers.

Note: Management practice implementation in the Duck River and Eight Mile Creek Watersheds are similar in that they are designed to protect the City of Cullman's drinking water source (Lake Catoma).

- The *Barney Acid Mine Drainage Remediation Project* (an abandoned surface mine reclamation project in the Black Warrior River Basin), reported in November 2003 that management measures including gabion baskets of dolomitic limestone used as leach beds, settling ponds, erosion control blankets, riprap channels, and permanent cover grasses have been installed.
- The *Cotaco Creek Watershed Project* management measures include over 55 A of no-till, 216 A filter strips, 2587 A nutrient management, 42,917 ft fencing, 2590 A prescribed grazing, 44 units heavy use area protection, 64 A critical area planting, 10 units animal waste management structures, 323 A riparian forest buffers, 332 A animal use exclusion, along 7.5 miles of impaired waters as of November 2003. In addition, an outdoor environmental education classroom and nature study area have been completed.
- The *Paint Rock River Watershed Nonpoint Source Pollution Report* was developed in cooperation with, The Nature Conservancy - Alabama Natural Heritage Program. This report will help guide threatened and endangered species identification and protection strategies as the Section 319 funded watershed project in the Tennessee River Basin continues.
- The Soil and Water Conservation Districts have begun landowner assistance sign ups to implement agricultural best management practices for the *Middle Coosa River Basin Project* including Logan Martin and Neely Henry Reservoirs. Other Section 319 funded efforts in the watershed include addressing septic tank owners, small businesses and urban development.

ADDITIONAL NPS PROGRAM HIGHLIGHTS OF FY03:

- Stormwater Phase II education and outreach materials such as the, "*Business Partners for Clean Water*" Program, and a "*Phase II Stormwater Tool Box*," continued to be promoted and distributed. The Business Partners for Clean Water Program was adopted by the Education Subcommittee of the Alabama Clean Water Partnership.
- The Groundwater Guardian and Groundwater Festival Program Committee continued to assist in development of Groundwater Festival Programs. Several Alabama counties have - or will have - *self-sustaining* groundwater protection festivals as a result of ADEM facilitation and Section 319 grant funding.
- Staff of ADEM's Office of Education and Outreach was presented the 2003 Best Environmental Education Program Award by the Environmental Education Association of Alabama for, "*Environmental Educator of the Year*."
- The Randolph County - Project R.O.S.E (Recycling Oil Saves Energy), received the: 2003 Best Environmental Education Program Award by the Environmental Education Association of Alabama for "*Best Local Environmental Program of the Year*." With support from the statewide Project R.O.S.E., Section 319, the Upper Tallapoosa Watershed Committee, Soil and Water Conservation Districts, Alabama Power Company, and Wal-Mart, the Randolph County Extension System organized a countywide competition for Randolph County school students - offering cash rewards to schools collecting the most used oil. Over 760 gallons of used oil was collected for refining and recycling.
- The Clean Water Partnership, in cooperation with the TN Valley RC&D, used Section 319 grant funds to produce a full color brochure entitled: *Constructed Wetlands - Operations and Maintenance*, for statewide distribution.
- Much stakeholder planning and coordination for the Alabama NPS Assessment Report Database continued in preparation for the FY03 Section 319 grant-funded watershed assessment scheduled for Spring 2004. These citizen-based and locally-led assessments are conducted in all 67 counties, and are locally-led by Soil and Water Conservation District citizen advisory groups.
- Water quality monitoring sites for FY03 NPS watershed sampling efforts were identified and prioritized. These efforts also support the 5-year rotational river basin assessment approach that will target the Choctawhatchee, Pea, and Yellow River Basins in 2004.
- Two (2) basic and one (1) advanced Stormwater Phase II Workshops were conducted in cooperation with numerous partner agencies and organizations.
- One (1) Coastal NPS Assessment Workshop was conducted in cooperation with numerous partner agencies and organizations.
- ADEM staff presented six (6) Watershed Protection Workshops to Alabama Forestry Commission District Foresters. Topics covered NEMO, the Section 303(d) list, NPS Pollution, Clean Water Partnership Program. Emphasis was placed on how local land use/forest management decisions made on the District level impact multi-District watersheds and water quality.
- Several statewide Envirothon Competitions were conducted. These events are multi-county high school environmental knowledge and "real-life" problem solution competitions.